

the length of *L. grayæ*. *L. sarlei*, J. M. Clarke, from the Niagara Shales (Silurian) of Rochester, New York, has thirteen plates to a complete shell, but this measures as much as 23 mm. *L. grayæ* would seem to be more nearly related to *L. squamatulus* (Barrande), from the Ordovician of Bohemia, and *L. suecicus*, Moberg, from the Upper Ordovician of Sweden—two species that appear to be very close indeed to each other. No shell approaching completeness is known of the two latter species, although a number of plates of *L. suecicus* have been found in association, but the plates would appear to be in many instances longer in proportion to their breadth than is the case in *L. grayæ*, and the growth-ridges number from 8–9 to a millimetre, but with no intervening and almost equally prominent ridges as in *L. grayæ*.

LXXVIII. — *An exceptionally complete Example of the Cirripede Scalpellum fossula, Darwin.* By THOMAS H. WITHERS, F.G.S.

[Plate X. fig. 6.]

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SOME years ago (1911, Geol. Mag. dec. v. vol. viii. p. 21), when describing certain Cirripedes in the collection of Dr. H. P. Blackmore, F.G.S., I mentioned that he had a beautiful example of the species *Scalpellum (Arcoscalpellum) fossula*, well worthy of description. Owing to its fragile nature, however, it was dangerous to risk sending this important fossil through the post, but since Dr. Blackmore has recently very generously presented it to the Geological Department of the British Museum (Registered In. 21559), it is now possible to proceed with its description and illustration.

While detached valves of this species are fairly common in the Upper Senonian, it is quite exceptional to find the valves in their natural association. Darwin (1851, Pal. Soc. Monogr. Foss. Lepadidæ, p. 24) described two specimens from the Chalk (*Belemnitella mucronata*-zone) of Norwich, each with four valves in position, one specimen consisting of the carina, scutum, tergum, and upper latus, and the other of a carina, scutum, tergum, and carinal latus. Dr. Blackmore's example from the Chalk (*Actinocamax quadratus*-zone) of East Harnham, near Salisbury, Wilts, consisting as it does of fourteen valves in the capitulum, together with some of the plates of the peduncle, is by far

the most complete specimen from the English Chalk. Only one other Arcoscalpellid is known so complete as this, and this is an example of the same species from the Chalk of Mendon, France, first described and figured by Hébert (1854, Bull. Soc. géol. France, 2<sup>e</sup> ser. tom. xi. p. 470, figs. 1-3) as *Scalpellum darwini*, and later (1855, Mém. Soc. géol. France, 2<sup>e</sup> ser. tom. v. p. 356, pl. xxviii. fig. 1) as *Scalpellum gallicum*. That specimen has just as many valves as Dr. Blackmore's example, for, while the rostrum is missing, there is a sub-carina. Taken together these two specimens show that the species had a capitulum consisting of fifteen valves, a like number to that deduced from a study of the isolated valves.

The specimen (Pl. X. fig. 6) has the left side uppermost and shows the carina (apex broken), scutum, tergum (apical part broken), upper latus, carinal latus, inframedian latus, and rostral latus. All these valves are in their natural position, except that the inframedian latus is pushed slightly upwards and over the rostral latus. Seven or eight peduncle-plates are present at the base of the capitulum; the uppermost three appear to retain their mutual relation, though pushed on to the inframedian latus. Below the peduncle-plates is seen the displaced rostral latus of the right side, showing its inner surface. The scutum of the right side is slightly displaced and its ad-occludent portion appears from beneath the edge of the left scutum, and inside this part of the right scutum rests the displaced rostrum.

Dr. Blackmore has not only carefully exposed all the plates as seen in the figure, but he has removed all the chalk, except for three pinnacles on which the capitulum rests, so that it is possible to examine the valves of the right side.

Much skill has been shown by Dr. Blackmore in the development of this fine fossil, and it is an exceedingly valuable addition to the National Collection.

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LXXIX.—*The Holotype of the Cirripede Scalpellum angustum* (Dixon). By THOMAS H. WITHERS, F.G.S.

[Plate X. figs. 7, 8.]

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DIXON (1850, Geol. Sussex, p. 353, pl. xxviii. fig. 9) established the species *Xiphidium angustum* on a single small carinal valve from the Chalk of Sussex.

Darwin, in his Monograph (1851, Palæont. Soc. Monogr.